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AMIN. TUROCY & CALVIN, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			Zahr, Ashraf A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/610,487	<b>Applicant(s)</b> HORVITZ ET AL.	
	<b>Examiner</b> ASHRAF ZAHR	<b>Art Unit</b> 2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 35-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 and 35-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/18/08, 2/21/08</u>  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-32, 35-51 are pending in this application. This is the second action on the merits.

### ***Response to Arguments***

2. Applicant's arguments with respect to claim 1-32, 35-51 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 8-9, 13-14, 18-22, 30-42, 48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz).

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**Regarding Claim 1**, Flickner discloses, “a notification system embodied on a computer-readable storage medium”. Specifically, a system 100 for viewing information and data which is interactive, ..with ticker-like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “comprising: an information herald that presents summarized notifications”. Specifically, ticker like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “an information controller that receives attentional inputs associated with a user”. Specifically, a eye or gaze tracking technology (Flickner, col 3, ln 5-7).

Flickner also discloses, “and constructs an attention model to dynamically generate the information herald on one or more display screens”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

Horvitz also discloses, "based at least in part on output generated from the attention model, the attention model analyzes a utility  $u(D_i, A_j)$ , capturing a cost of a user in an attentional state  $A_j$ , being disrupted by a task or communication event  $D_i$ ). Specifically, We assess for each alerting outcome, a cost function of the form  $Ca(A_i|F_j)$ ,referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying

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information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1). .

**Regarding Claim 2**, Flickner also discloses, “the system of claim 1, the information controller receives inputs regarding user activities”. Specifically, in utilizing eye-tracking in GUI interfaces, the GUI component the user is paying attention to must be determined (Flickner, col 5, ln 10-12).

Flickner also discloses, “employs one or more attention models to generate one or more dynamic outputs to control information provided to users at a workspace”. Specifically, an eye-tracking system may be implemented through the use of a comparator (not illustrated) for comparing a user's eye position with a fixed position and a timer (not illustrated) which times the duration of a user scanning the display screen (Flickner, col 5, ln 30-35).

**Regarding Claim 3**, Flickner also discloses, “the system of claim 2, the information herald operates at various locations in the workspace”. Specifically, the ticker can be placed at various locations on the desktop (Flickner, col 5, ln 21-40).

Flickner also discloses, “and receives dynamically adjustable data from the information controller in order to provide notifications to users in a non-distractive and unobtrusive manner”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

**Regarding Claim 4**, Flickner also discloses, “the system of claim 2, the information controller provides attention-sensitive placement and configuration of the information herald”. Specifically, another approach to using eye movement information with the ticker is to modify what is displayed by the ticker itself. For example, the ticker item may be displayed in a bolder font, an underlined font, an italicized font, with greater resolution, or the like, if the user is tracking it. Specifically, the camera system would provide an input to the CPU 2 indicating that the user is paying particular attention to an information item. As a result, the item is of interest could be displayed differently from other items, as discussed above (Flickner, col 9, ln 20-30).

Flickner also discloses, “based on a user's activity via the attention models or other inputs about focus of visual attention including gaze and pose information”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

**Regarding Claim 8**, Flickner also discloses, “the system of claim 1, the information controller includes controls for timing out after a wait period, allowing users to continue to work with or without a glance at the information herald”. Specifically, Flickner discloses a dwell time (Flickner, col 7, ln 36-50)

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**Regarding Claim 9**, Flickner also discloses, “the system of claim 8, the information controller processes an implicit signal from users that they are not interested by information presented in the information herald without requiring an explicit user action”. Specifically, Flickner discloses a dwell time (Flickner, col 7, ln 36-50)

**Regarding Claim 13**, Flickner also discloses, “the system of claim 1, the summarized notifications include at least one of a line of message, a message Chunk, and a message outline”. Specifically, Flickner discloses levels of information (Flickner, col 6, ln 17- 30).

**Regarding Claim 14**, Flickner also discloses, “the system of claim 1, the information herald is dynamically located near a user's focus of attention”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

**Regarding Claim 18**, Flickner also discloses, “the system of claim 1, the information controller employs a dwell time for the information herald that can be shortened or lengthened depending on where the herald is being displayed or the user's workload”. Specifically, Flickner discloses a dwell time (Flickner, col 7, ln 36-50)

**Regarding Claim 19**, Flickner also discloses, “the system of claim 18, the information herald is appended to a herald journal or folder after a predetermined time that allows a user to inspect the information herald at a later time”. Specifically, the ticker works from a fixed set of information in a queue (Flickner, col 10, ln 54-61). This can be appended by inserting new information and deleting older information (Flickner, col 11, ln 1-11).

**Regarding Claim 20**, Flickner also discloses, “a computer readable medium having computer readable instructions stored thereon for implementing at least one of the information herald and the information controller of claim 1”. (Flickner, col 9, ln 7-18).

**Regarding Claim 21**, Flickner discloses, “a system embodied on a computer readable storage medium that facilitates message processing by a user”. Specifically, a system 100 for viewing information and data which is interactive, ..with ticker-like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “comprising: means for automatically prioritizing a message”. Specifically, ticker like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “means for summarizing the message”. Specifically, ticker like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “means for dynamically locating the message in a user's workspace based at least in part on output generated from the attention model”.



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Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

Horvitz also discloses, "means for constructing an attention model that analyzes a utility  $u(D_i, A_j)$ , capturing a cost of a user in an attentional state  $A_j$ , being disrupted by a task or communication event  $D_i$ ). Specifically, We assess for each alerting outcome, a cost function of the form  $C_a(A_i|F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1). .

**Regarding Claim 22**, Flickner also discloses, "the system of claim 21, further comprising means for analyzing the user's activities in order to dynamically locate the message". Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

**Regarding Claim 30**, Flickner also discloses, "the method of claim 23, the detected activities are determined in accordance with the model" (Flickner, col 5, ln 2-40).

**Regarding Claim 31**, Flickner also discloses, “the method of claim 30, the model processes at least one of, a location, a visual pose, a calendar, a time, an appointment status, an acoustical signal, an application in focus, an inspection interval, an application usage pattern, and user device activity to determine an attentional focus of a user” (Flickner, col 5, ln 2-40).

**Regarding Claim 32**, Flickner also discloses, “a method for controlling notifications to a user”. Specifically, a system 100 for viewing information and data which is interactive, ..with ticker-like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “comprising: monitoring a user's activities”. Specifically, a eye or gaze tracking technology (Flickner, col 3, ln 5-7).

Flickner also discloses, “constructing an attention model to analyze the user's activities”. notifications”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

Flickner also discloses, “dynamically placing information alerts within a workspace based at least in part on output generated from the attention model”. Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

Horvitz also discloses, "the attention model analyzes a utility  $u(D_i, A_j)$ , capturing a cost of a user in an attentional state  $A_j$ , being disrupted by a task or communication event  $D_i$ ). Specifically, We assess for each alerting outcome, a cost function of the form  $C_a(A_i|F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1). .

**Regarding Claim 35**, Horvitz also discloses, "the method of claim 32, the cost is assessed as a willingness to pay to avoid a disruption in dollars for a respective combination of disruptions". Specifically, We assess for each alerting outcome, a cost function of the form  $C_a(A_i|F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1). .

**Regarding Claim 36**, Horvitz also discloses, "the method of claim 32, further comprising computing an expected cost of interruption (ECI) by summing over utilities,

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weighted by a likelihood of respective states of attention, conditioned on a stream of incoming sensory information, wherein ECI is stated as:  $ECI = p(A_j | E)u(D.A_j)$ , wherein  $p(A_j | E)$  is the probability of an attentional state, conditioned on an evidence stream  $E$ ". Specifically, We assess for each alerting outcome, a cost function of the form  $Ca(A_i | F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1). .

**Regarding Claim 37**, Flickner also discloses, "a method for controlling notifications to a user". Specifically, a system 100 for viewing information and data which is interactive, ..with ticker-like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, "comprising: monitoring a user's activities". Specifically, a eye or gaze tracking technology (Flickner, col 3, ln 5-7).

Flickner also discloses, "providing one or more user controls to guide a herald". Specifically, a eye or gaze tracking technology (Flickner, col 3, ln 5-7).

Flickner also discloses, "dynamically controlling the herald based at least in part on the user's activities and the user controls". Specifically, eye-tracking enables the ticker system to enhance its usability by automatically providing additional relevant (and more detailed) information of the subject being viewed (Flickner, col 6, ln 55-65).

Horvitz also discloses, "analyzing a utility  $u(D_i, A_j)$ , capturing a cost of a user in an attentional state  $A_j$ , being disrupted by a task or communication event  $D_i$  to infer a cost of different types of interruptions given that the user is of a particular attentional state, the attentional state inferred from monitored activities. Specifically, We assess for each alerting outcome, a cost function of the form  $C_a(A_i|F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1).

**Regarding Claim 38**, Flickner also discloses, "the method of claim 37, further comprising providing an entry point into the herald for decisions about heralds including positioning and rendering of the heralds". Specifically, the behavior of the user could be monitored to provide greater reliability. Such behavior could be user-defined (Flickner, col 7, ln 36-50).

**Regarding Claim 39**, Flickner also discloses, "the method of claim 37, further comprising providing a particular region or button with the herald that allows entry into controls for adjustment in general or for the case at hand". Specifically, the behavior of the user could be monitored to provide greater reliability. Such behavior could be user-defined (Flickner, col 7, ln 36-50).

**Regarding Claim 40**, Flickner also discloses, “the method of claim 37, the control provided as a rich control panel for specifying preferences about heralds”. Specifically, the behavior of the user could be monitored to provide greater reliability. Such behavior could be user-defined (Flickner, col 7, ln 36-50).

**Regarding Claim 41**, Flickner also discloses, “the method of claim 37, further comprising controls for opening and closing complex structures associated with the herald”. Specifically, a ticker is made up of software object code (Flickner, col 9, ln 15-50).

**Regarding Claim 42**, Flickner also discloses, “the method of claim 37, the controls include general gestures that enables users to ignore the herald for a time period”. Specifically, if the user is not looking at the ticker for the specified period of time, then the ticker reverts back to displaying ticker like items (Flickner, col 7, ln 36-50).

**Regarding Claim 48**, Flickner also discloses, “the method of claim 37, further comprising automatically analyzing spatial and temporal constraints”. Specifically, a time out period (Flickner, col 6, ln 50-56).

Flickner also discloses, “that are based on a type of software application, a configuration of displayed information associated with the application, or current or recent specific interactions with application content” (Flickner, col 4, ln 18-25).

**Regarding Claim 49**, Flickner also discloses, “the method of claim 48, the constraints are employed to ensure that a herald does not obfuscate important content or disrupt a current interaction and to minimize the disruptiveness of a rendering of the herald”. Specifically, the ticker can be placed in an area of the screen to minimize disruption (Flickner, col 5, col 20-40), (Flickner, col 9, col 20-45).

**Regarding Claim 50**, Flickner also discloses, “the method of claim 48, further comprising automatically positioning a keep out area over selected portions of a user's display or displays to ensure that a herald is not placed in a position that will overlay a position where a user is currently working”. Specifically, the ticker can be placed in an area of the screen to minimize disruption (Flickner, col 5, col 20-40), (Flickner, col 9, col 20-45).

5. Claims 5-7, 10-12, 23, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz) in further view of Samar, US 5,563, 514 (Hereinafter, Samar)

**Regarding Claim 5**, Samar discloses, “the system of claim 1, the information controller removes after some threshold time or fades the information herald from view over time. Specifically, the bubble described in Samar can take on different sizes, shapes, shadings, transparency levels, etc. (Samar, col 9, ln 30-67). It would be obvious to one of ordinary skill in the art to combine the two references to allow the bubble to take on different forms. The motivation to do so would be to allow the bubbles to take different forms (Samar, col 9, ln 30-31).

**Regarding Claim 6**, Samar discloses, “the system of claim 1, the information herald provides more detailed information when a user selects the information herald via an input command”. Specifically, after positioning a mouse pointer over an item of interest, information is communicated to the user Samar, col 2, ln 55-65). It would be obvious to one of ordinary skill in the art to combine the two references to allow the information ticker to access more information when through an input command. The motivation to do so would be to give ticker more functionality.

**Regarding Claim 7**, Samar also discloses, “the system of claim 6, the input command includes at least one of a keystroke, mouse click, a mouse hover, and voice command”. Specifically, after positioning a mouse pointer over an item of interest, information is communicated to the user Samar, col 2, ln 55-65). It would be obvious to one of ordinary skill in the art to combine the two references to allow the information



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ticker to access more information when through an input command. The motivation to do so would be to give ticker more functionality.

**Regarding Claim 10**, Samar discloses, “the system of claim 1, the information controller includes at least one of a dynamic positioning control, a dynamic sizing control, a dynamic content control, a dynamic rendering control; a dynamic audio control, a dynamic timing control, and a dynamic fading control”. Specifically, the bubble described in Samar can take on different sizes, shapes, shadings, transparency levels, etc. (Samar, col 9, ln 30-67). It would be obvious to one of ordinary skill in the art to combine the two references to allow the bubble to take on different forms. The motivation to do so would be to allow the bubbles to take different forms (Samar, col 9, ln 30-31).

**Regarding Claim 11**, Samar discloses, “the system of claim 10, the dynamic rendering control is employed for changing the appearance of the information herald or content therein, the appearance including at least one of colors, shapes, and fonts”. Specifically, the bubble described in Samar can take on different sizes, shapes, shadings, transparency levels, etc. (Samar, col 9, ln 30-67). It would be obvious to one of ordinary skill in the art to combine the two references to allow the bubble to take on different forms. The motivation to do so would be to allow the bubbles to take different forms (Samar, col 9, ln 30-31).

**Regarding Claim 12**, Samar discloses, “the system of claim 1, the information herald is dynamically adjusted to an iconic form based upon the summarized notification or an action by the user”. Specifically, the bubble described in Samar can take on different sizes, shapes, shadings, transparency levels, etc. (Samar, col 9, ln 30-67). It would be obvious to one of ordinary skill in the art to combine the two references to allow the bubble to take on different forms. The motivation to do so would be to allow the bubbles to take different forms (Samar, col 9, ln 30-31).

**Regarding Claim 23**, Flickner discloses, “a method for automatically notifying a user, comprising: automatically determining an output region for a message”. Specifically, a system 100 for viewing information and data which is interactive, ..with ticker-like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “automatically placing the message in the output region”. Specifically, ticker like interfaces (Flickner, col 2, ln 47-54).

Flickner also discloses, “automatically placing the output region in a default region of a workspace”. Specifically, the bottom of the screen (Flickner, col 5, ln 22-25).

Samar and Flickner discloses, “dynamically moving the output region based upon the user's detected activities and output from the model”. Specifically, in Flickner, the ticker can modify what is being displayed by using the eye movement information (Flickner col 9, ln 35-45). Samar discloses a pointer or cursor is located by a user over an item of interest, and without further interaction from the user, information related to the item of interest is retrieved and displayed to the user (Samar, col 2, ln 35-50). It

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would be obvious to one of ordinary skill in the art at the time of the invention to modify Flickner to allow the ticker to appear where a user is gazing. The motivation to do so would be to enable easier retrieval of information to the user (Samar, col 2, ln 45-55).

Horvitz also discloses, "constructing a model that infers a cost of different types of interruptions given that the user is of a particular attentional state" and "using the model to analyze a utility,  $u(D_i, A_j)$ , capturing a cost of a user in an attentional state  $A_j$  being disrupted by a task or communication event  $D_i$ ". Specifically, We assess for each alerting outcome, a cost function of the form  $C_a(A_i|F_j)$ , referring to the cost of being alerted via action  $A_i$  when the user is in attentional state  $F_j$  (Horvitz, pg 3, col 2). It would be obvious to one of ordinary skill at the time of the invention to combine these two references to include the cost function in Flickner. The motivation to do so would be to determine the expected utility of relaying information contained in an alert can be decomposed into expected costs and benefits of the alerting action (Horvitz, pg 3, col 1).

**Regarding Claim 27**, Flickner also discloses, "the method of claim 23, further comprising automatically applying at least one control to dynamically change the output region". Specifically, another approach to using eye movement information with the ticker is to modify what is displayed by the ticker itself. For example, the ticker item may be displayed in a bolder font, an underlined font, an italicized font, with greater resolution, or the like, if the user is tracking it (Flickner, col 9, ln 20-30).

Flickner also discloses, “the at least one control associated with at least one of a position, a size, a content, an appearance, a sound, and a time”. Specifically, another approach to using eye movement information with the ticker is to modify what is displayed by the ticker itself. For example, the ticker item may be displayed in a bolder font, an underlined font, an italicized font, with greater resolution, or the like, if the user is tracking it (Flickner, col 9, ln 20-30).

**Regarding Claim 28**, Flickner also discloses, “the method of claim 23, further comprising automatically summarizing the message”. Specifically, the ticker has levels of information (Flickner, col 6, ln 15-25).

6. Claims 16-17, 43, 45-47, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz) in further view of Monnes et al., US 6,459,440 (Hereinafter, Monnes).

**Regarding Claim 16**, Monnes also discloses, “the system of claim 1, further comprising an audio herald that is controlled by the information controller using auditory cues that represent the urgency of an incoming message” (Monnes, col 5, ln 30-32). It would be obvious to one of ordinary skill in the art at the time of the invention to provide

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auditory feedback in Flickner. The motivation do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

**Regarding Claim 17**, Monnes also discloses, “the system of claim 16, the information controller only uses the audio herald, or adds an audio cue when no user is detected” (Monnes, col 5, ln 30-32). It would be obvious to one of ordinary skill in the art at the time of the invention to provide auditory feedback in Flickner. The motivation do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

**Regarding Claim 43**, Monnes also discloses, “the method of claim 42 the controls are coupled with a "snooze" feature, allowing user to indicate a predetermined period for the herald to return”. Specifically, when the user input 22 selects "reminder", the application manager 16 then sends the response 30 of "reminder chosen" to the first application 20. The first application 20 upon receipt of the response 30 updates its database to initiate a reminder notification at a later predetermined time (Monnes, col 3, ln 30-35). It would be obvious to one of ordinary skill in the art at the time of the invention to set a reminder to ticker in Flickner. The motivation do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

**Regarding Claim 45**, Monnes also discloses, “the method of claim 37, further comprising automatically providing a list of heralds that have been missed while a user

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has been detected to be away". Specifically, a plurality of application messages 42 is stored in the buffer 38 (Moones, col 6, ln 21-27). It would be obvious to one of ordinary skill in the art at the time of the invention to store the messages in a buffer. The motivation to do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

**Regarding Claim 46**, Flickner also discloses, "the method of claim 45, further comprising providing a time-out function based upon a determined importance of the heralds appearing in the list of herald". Specifically, a time out period is reached (Flickner, col 6 ln 50-55).

**Regarding Claim 47**, Flickner also discloses, "the method of claim 46, further comprising sorting important heralds into a first folder and time-out heralds in a subsequent folder". Specifically, Flickner discloses different levels of information (Flickner, col 6, ln 15-30).

**Regarding Claim 51**, Monnes also discloses, "the method of claim 50, further comprising processing a user's current activity and providing a brief temporal keep out area that is applied to delay a herald rendering". Specifically, when the user input 22 selects "reminder", the application manager 16 then sends the response 30 of "reminder chosen" to the first application 20. The first application 20 upon receipt of the response 30 updates its database to initiate a reminder notification at a later predetermined time

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(Monnes, col 3, ln 30-35). It would be obvious to one of ordinary skill in the art at the time of the invention to set a reminder to ticker in Flickner. The motivation do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

7. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz) in further view of Samar, US 5,563, 514 (Hereinafter, Samar) and in further view of Hirosawa et al., US 5,987,234 (Hereinafter, Hirosawa).

**Regarding Claim 24**, Hirosawa also discloses, “the method of claim 23, further comprising automatically assigning a priority to the message” (Hirosawa, col 9, ln 8-16, col 9, 26-36). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Flickner and Samar to display the messages based upon priority. The motivation to do so would be to display the windows in a visible location so as they are not covered by other windows

**Regarding Claim 25**, Hirosawa also discloses, “the method of claim 24, further comprising automatically moving the output region based upon the priority” (Hirosawa, col 9, ln 61). It would be obvious to one of ordinary skill in the art at the time of the

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invention to modify Flickner and Samar to display the messages based upon priority.

The motivation to do so would be to display the windows in a visible location so as they are not covered by other windows

**Regarding Claim 26**, Flickner and Hirosawa also discloses, “the method of claim 24, automatically changing the appearance of the output region based upon at least one of the priority and the user's detected activities” (Hirosawa, col 9, ln 61). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Flickner and Samar to display the messages based upon priority. The motivation to do so would be to display the windows in a visible location so as they are not covered by other windows

8. Claims 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz) in further view of Samar, US 5,563, 514 (Hereinafter, Samar) and in further view of Monnes et al., US 6,459,440 (Hereinafter, Monnes).

**Regarding Claim 29**, Moones also discloses, “the method of claim 23, further comprising automatically moving content associated with the output region to an



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electronic journal". Specifically, a plurality of application messages 42 is stored in the buffer 38 (Moones, col 6, ln 21-27). It would be obvious to one of ordinary skill in the art at the time of the invention to store the messages in a buffer. The motivation do so would be to alert the user that a message has been received (Monnes, col 5, ln 30-35).

9. Claims 15, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flickner et al., US 6,577,329 (Hereinafter, Flickner) in view of Horvitz, Eric, Jacobs, Andy, Hovel, David, Attention Sensitive Alerting, July 1999, In Proceedings of UAI '99, Conference on Uncertainty and Artificial Intelligence, Morgan Kaufmann: San Francisco. pp 305-313 (Hereinafter, Horvitz) in further view of Hirosawa et al., US 5,987,234 (Hereinafter, Hirosawa).

**Regarding Claim 15**, Hirosawa also discloses, "the system of claim 1, the information herald is dynamically positioned based upon an automatically determined urgency value for a notification". Specifically, a priority value is assigned to a window (Hirosawa, col 9, ln 8-16, col 9, 26-36). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Flickner and Samar to display the messages based upon priority. The motivation to do so would be to display the windows in a visible location so as they are not covered by other windows

**Regarding Claim 44**, Hirosawa also discloses, "the method of claim 37, the herald is dynamically positioned based upon an urgency associated with a message". "

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Specifically, a priority value is assigned to a window (Hirosawa, col 9, ln 8-16, col 9, 26-36). It would be obvious to one of ordinary skill in the art at the time of the invention to modify Flickner and Samar to display the messages based upon priority. The motivation to do so would be to display the windows in a visible location so as they are not covered by other windows

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHRAF ZAHR whose telephone number is (571)270-1973. The examiner can normally be reached on M-F 9:30 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on (571)272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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AAZ 8/30/08

/William L. Bashore/  
Supervisory Patent Examiner, Art Unit 2175